

Remarks

Applicant respectfully requests reconsideration of this Application in view of the following remarks.

Applicant submits herewith a revised Abstract of the Disclosure reduced in length to 150 words as required.

The Examiner has objected to the drawings because they lack some of the features of claim 1. Applicant believes that all the features noted by the Examiner in claim 1 are shown in Fig. 9 as filed. Applicant stands ready to supply any drawing corrections required by the Examiner, but believes that the specific features from claim 1 noted by the Examiner are indeed illustrated in Fig. 9.

Claims 7 and 8 have been amended to correct the informality noted by the Examiner.

Claims 1, 2, 3, 15 and 16 have been rejected under 35 USC 103 as unpatentable over New in view of Meeks '197. New, in Fig. 1, illustrates almost the exact prior art that Applicant illustrates in his Fig. 1. Meeks, in his Fig. 4, illustrates essentially the same arrangement that Applicant illustrates in his Fig. 2 depiction of the prior art in which all the flux from the electromagnets and the permanent magnet must pass through the permanent magnet.

Claim 1 calls for

a permanent magnet in said stator for producing a bias flux through first and second bias flux paths; said first path including portions of both of said ring poles, both of said axial air gaps and said annular ferromagnetic region of said rotor; said second path including a shunt that is magnetically in parallel with said annular ferromagnetic region of said rotor and bypasses said axial air gaps;

said second path having a reluctance to said flux from said permanent magnet that is comparable with magnetic reluctance of said first path;

Meeks does not teach this feature. In particular, Meeks "first bias flux path" 34' does not bypass the gaps 28'. Moreover, the permanent magnet does not have a shunt path (the second path) for flux from the permanent magnet,

much less one that is comparable in reluctance to the first flux path 34' for flux from the permanent magnet. Thus, Meeks does not teach anything that can be combined with New that would produce the invention claimed in rejected claims 1, 2, 3, 15 or 16. According, Applicant believes that these claims are patentable as presented.

Claim 4 has been rejected under 35 USC 103 as unpatentable over New, Meeks and Murakame. Applicant has noted the features of claim 1 that distinguishes over this combination of references, and these feature also apply to claim 4. Murakame merely discloses a solid inner pole ring; he does not supply the missing teaching noted above. Thus, claim 4 should be patentable over the combination of references applied against it.

Claim 5 has been rejected under 35 USC 103 as unpatentable over New, Meeks and Ito. New and Meeks are applied as against claim 1 and the remarks above about that combination of references applies to the combination of New and Meeks as applied against claim 5. In addition, Ito is cited to show a permanent magnet (8) fixed to the rotor. Applicant is unsure of the structure that would result from a combination of Ito and the combined disclosures of Meeks and New, but Applicant disagrees that these changes would have been obvious to one of ordinary skill in the art Applicant does not understand why the Examiner thinks that a person of ordinary skill in the art would want to attach the magnet of Ito to the rotor of Meeks, or where the magnet would be attached. Applicant can find no teaching of these matters in any of these references. Clarification is requested.

Claim 7 has been rejected under 35 USC 103 as unpatentable over New, Meeks and Bernus. New and Meeks are applied as against claim 1 and the remarks above about that combination of references applies to the combination of New and Meeks as applied against claim 7. In addition, Bernus is cited to show, in Fig. 2, an axially polarized ring magnet, "so that the rotor is returned by a passive means that is displaced axially." Bernus does not supply the missing teaching to produce a magnetic bearing in accordance with Claim 1. There is nothing in any of New, Meeks or Bernus that would teach a person of ordinary

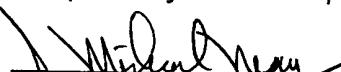
skill in the art of produce a magnetic bearing having a permanent magnet with a shunt path (the second path) for flux that bypasses the axial air gaps, and a first flux path that is comparable in reluctance to the shunt flux path 34' for flux from the permanent magnet and crosses the axial air gaps.

Claim 8 has been rejected under 35 USC 103 as unpatentable over New, Meeks and Bernus. New and Meeks are applied in the same way they are applied against claim 1 and the remarks above about that combination of references applies to the combination of New and Meeks as applied against claim 8. Meeks (WO 95/05700) is cited for a disclosure of a radially magnetized ring magnet 32. However, Meeks 5,315,197 also has a radially polarized ring magnet, so Applicant does not see that the PCT publication adds anything to the combination. Applicant believes that claim 8 is patentable over the combination of either Meeks disclosure in combination with New, as discussed in detail above.

Applicant believes that this response clarifies the patentability of the claims and that this Application is now in condition for allowance, and Applicant respectfully solicits allowance of this Application.

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Respectfully submitted,


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